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Hibiscus Rust, *Kuehneola malvicola*[1]

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INTRODUCTION: The Mallow family, Malvaceae, contains genera representing ornamental annuals, perfume plants, food plants, perennial flowering plants, some shrubs, and flowering tropical trees (DeWolf 1986). At least three of the genera, *Alcea, Hibiscus,* and *Malvaviscus,* are frequently infected with the rust fungus, *Kuehneola malvicola* Arthur. This rust is common throughout the Gulf States, and has also been reported in Central America, West Indies, and South America (Arthur 1962).

PATHOGEN: There is a paucity of literature on *K. malvicola.* Most references simply list occurrences of the disease with no mention of pathogenicity of the fungus or conditions required for disease development. Additional studies are certainly warranted. *K. malvicola is* autoecious, i.e., it may complete its entire life cycle on a single host species. Many other rusts require two host species to complete the life cycle. The pathogen is easily dispersed by air currents. Additional rusts can occur in Florida on these members of the Malvaceae. Distinctions among these rusts are possible only by microscopic examination of the spores.

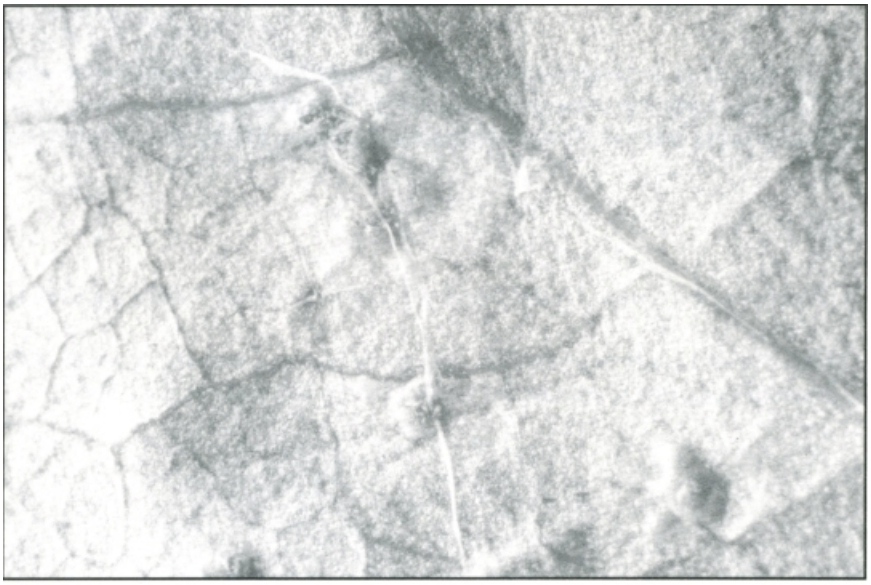

Fig. 1. Underside of *Hibiscus syriacus* leaf with rust pustules caused by *Kuehneola malvicola.*

SYMPTOMS: Small (1 mm) orange-brown pustules typical of most rusts develop on the leaf undersurface (Fig. I). The pustules eventually rupture, releasing spores, known technically as uredospores. Corresponding areas on the upper leaf surface appear as slightly larger yellow-orange spots and do not develop pustules. Premature defoliation may occur, resulting in weakened, unsellable plants. In Florida, uredial pustules are often nearly completely occupied or overrun by the black, pycnidial rust hyperparasite, *Sphaerellopsis filum* (Biv.-Bern. ex Fr.) Sutton [= *Darluca filum* (Biv.-Bern. ex Fr.) Berk.] (Fig. 2).

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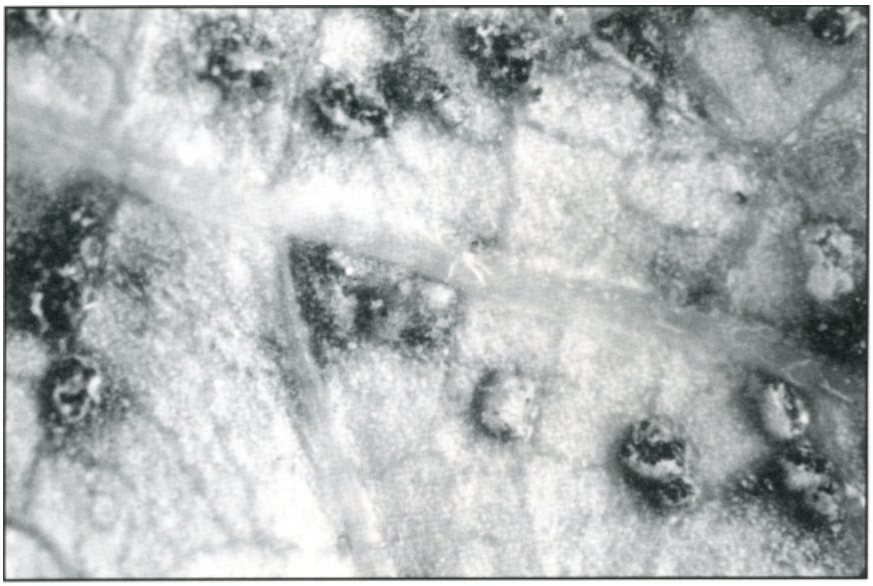

Fig. 2. *Kuehneola malvicola* pustules parasitized by the dark pigmented *Sphaerellopsis filua*.

CONTROL: Because of ease of spore dissemination, chemical control measures may not be effective. Appropriate chemicals may be tried on prized plant specimens (Pirone 1978). Otherwise, sanitation measures, including removal of dead fallen foliage and pruning infected flowering branches following bloom, should provide adequate control in many cases.

LITERATURE CITED

Arthur, J.C. 1962. Manual of the rusts in United States and Canada. Hafner Publishing Company, New York. 438 p.

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Pirone, P.P. 1978. Diseases and pests of ornamental plants. John Wiley & Sons, Inc. 566 p.